

Appl. No. 10/615,859
Amdt. dated March 4, 2005
Reply to Office Action of December 7, 2004

REMARKS

Reconsideration of this application and the rejection of claims 1-12 are respectfully requested. Applicant has attempted to address every objection and ground for rejection in the Office Action dated December 7, 2004 (Paper No. 20041205) and believes the application is now in condition for allowance.

Applicant requests Examiner acknowledgement and consideration of the Information Disclosure Statement filed January 18, 2005 with the contents of a European Search Report.

Claims 1-12 stand rejected under 35 U.S.C. 103(a) as being obvious in view of a combination of Janke (US 5,234,601) in view of Zabinski (US 5,699,272) and also in view of Teel (US 6,783,684). Janke discloses a water treatment system whereby spaced conductivity probes in a resin tank measure conductivity during the operational cycle. Warning signals are generated when the resin bed has lost efficiency, and when a regenerant has entered the tank. However, Janke fails to disclose the monitoring of the bed to determine that the regeneration has been successfully completed, or to trigger an alarm if regeneration was unsuccessful. Instead, Janke assumes regeneration has been completed upon its initiation, for at the completion of regeneration, a valve control clock and a timer circuit mechanically opens a service switch to signal the microcomputer that regeneration is complete. The only alarm Janke proposes during this part of the cycle is that a no salt indicator lamp is triggered. However, at the conclusion of regeneration, the microcomputer

remains in the regeneration state for four or more hours to allow removal of any remaining pockets of brine. (Janke Col. 12, lines 22-35; lines 58-67).

Janke fails to disclose or suggest that the probes could be used to determine whether regeneration has been completed, or that alarms could be used to alert the user that the regeneration was unsuccessful. This failure is especially telling in view of Janke's inclusion of alarms in many other portions of the operational cycle. If the present steps of monitoring the conclusion of regeneration and providing an associated alarm were considered obvious, Janke would evidently have included it.

Zabinski, jointly owned with the present application and incorporated by reference in the present application, discloses the process of measuring impedance values inside the resin bed during softener operation, including regeneration. However, Zabinski fails to disclose or suggest the use of an alarm to alert the user when regeneration was unsuccessful. In the event the various timers time out during regeneration, the cycle is discontinued, to provide an indication of a problem (Zabinski Col. 5, lines 35-37; 49-51;63-64). With the cycle discontinued, the regeneration has not been completed. However, the softener moves on to the next, "fast rinse" cycle, followed by the "service" cycle. Ultimately, this means that during the next service cycle, the resin, which has not been completely regenerated, will become prematurely saturated and the user will receive untreated water. With the Zabinski system, this will probably be the first time the user will be aware of a problem. Unfortunately, this period after the unsuccessful regeneration and before the user

becomes aware of the unsuccessful regeneration may result in pipe scaling, unsatisfactory shower or bath water, as well as any other negative consequence of using untreated hard water.

Thus, even if there were some incentive to combine Zabinski with Janke, which Applicant disputes, the invention as now claimed would be neither suggested nor disclosed, since there is no incentive in either reference, for placing any emphasis on whether or not the regeneration was successfully completed, and alerting the user to that fact. Janke only monitors whether there is regenerant entering the bed. However, after entering, the regenerant could run out, become diluted or the line blocked, or other condition could occur resulting in an incomplete regeneration despite the alarms of Janke.

Another factor regarding the number and placement of alarms is that, in the design of a softener system, care must be exercised to avoid making the operation of the system overly complicated. Thus, just because Janke discloses the use of alarms with the regeneration process, it does not follow that a designer would add alarms for all possible contingencies, especially when none of the references recognized the problem of an unsuccessful regeneration.

Teel is only cited for making the connection between monitoring impedance and conductivity. Teel is focused on monitoring the conductivity of the brine as an indicator of the amount of salt in the brine solution. This focus is evident on the placement of the

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probe 90 which is in the conduits emanating from the brine tank. Thus, the alarm connected to this probe is for alerting the user that more salt is needed in the brine tank.

Claims 10-12 stand rejected under 35 USC §103(a) as being obvious over a combination of Zabinski in view of Janke or Teel. The Examiner has lumped all alarms as being equivalent, without regard to the particular problem being addressed. As discussed above, more alarms are not necessarily better. Also, even when a water treatment/softening system was described with a plurality of alarms, neither Janke nor Teel disclosed or suggested a need for monitoring whether a successful regeneration occurred and if not, alerting the user to that fact. While Zabinski shuts off the system, that does not imply that the user will be immediately aware of the problem. Instead, it means that in the next service cycle, untreated water is flowing to various applications without the user's knowledge. That is a problem not recognized by any of the cited references.

Applicants respectfully suggest that in the outstanding Action, the rejections evidence "picking and choosing" features of various references and combining them when there is no suggestion in those references to do so. It is impermissible within the framework of a 35 U.S.C. §103 rejection to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. Furthermore, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination.

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Teachings of references can be combined only if there is some suggestion or incentive to do so. As discussed above, none of the cited references have an incentive to arrive at the presently claimed invention. In fact, with Janke's existing alarm, and Zabinski's lack of alarms, it may be concluded that further alarms would not be necessary, if used at all.

Also, the problem faced by the inventor is a factor to be considered in an obviousness evaluation. In this situation, none of the references recognized the problem addressed and solved by the present invention, the consequences of an unsuccessful regeneration and a way to alert the user to that condition before negative consequences occur. Accordingly, the rejections based on a combination of Janke, Zabinski and Teel are respectfully traversed.

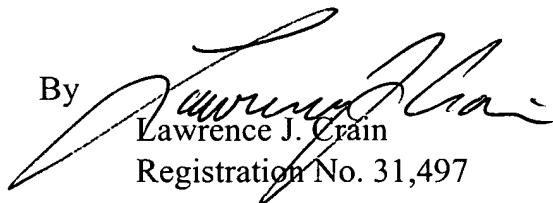
Applicant submits that in view of the above-identified amendments and remarks, the claims in their present form are patentably distinct over the art of record. Allowance of the rejected claims is respectfully requested. Should the Examiner discover

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there are remaining issues which may be resolved by a telephone interview, he is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

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IN THE DRAWINGS:

A replacement of sheet 1 is enclosed wherein reference number 84 has been added to FIG. 2.